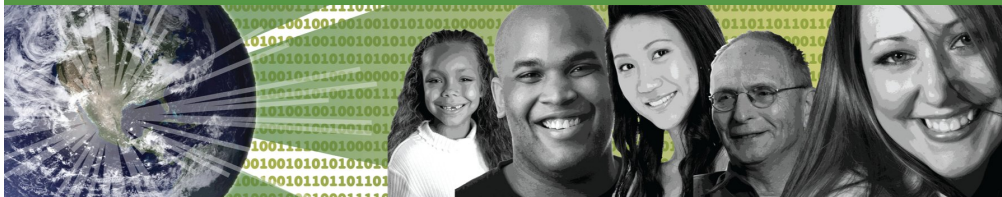




Building Online Repositories of Scaffolded Examples

Mary Beth Rosson
Pennsylvania State University



Broader Impacts For Research and Discovery Summit



Overview

- Studying technology support for active learning since the mid-80's
- Guided by minimalist design principles
 - Less is more; leverage learners' context
- *Scaffolded examples* are a way to do this
 - Structure communicates goals and process
 - Used w/professionals, undergrads, HS girls, community elders, web end-users



Mary Beth Rosson
Penn State University



Usability Case Studies

- Online cases of usability engineering process
 - Organization conveys phased process
 - Tradeoff analysis scaffolds design decisions
- Activities that evoke case-based learning
 - E.g., extending a case for a new requirement, tracing back or forward to analyze perturbations
 - And materials for assessing outcomes (e.g., usability engineering self-efficacy, free form questions)
- Used/extended in our own classes for 10 years
 - Other universities world-wide



Mary Beth Rosson
Penn State University

Overview

Case Studies

- ▼ Garden-com
 - Requirements Analysis
 - Activity Design
 - ▼ Information Design
 - Exploration
 - Envisionment
 - Rationale
 - Interaction Design
 - Documentation
 - Usability Testing
- m-Banking
- PhoneWriter
- PLEIS Web Site
- TAPPED IN
- Virtual Science Fair

about garden-com
Garden-com >

This case study... Human Code... garden.com... several usability... thorough inv... customer dat... information t... background i... zone, care ti... terms of how... to make big... alone, etc. T... garden.com... constraints, ... prospective... with ergosof

garden-com before & after wheelbarrow screenshots

Type: [Before & After Screenshots](#)

Creator: Tim Gasperak

Date: 6/6/2001

Description

A set of screenshots that reflect the contents of a sample wheelbarrow before and after the shopping redesign effort was undertaken.

Artifact



Before:



After:

Garden-com - Information Claims

	<ul style="list-style-type: none"> [-] but may be difficult to scan for target item (since user must look across and down the screen) 	
Wheelbarrow link located in left navigation bar...	<ul style="list-style-type: none"> [+] access to wheelbarrow is possible from anywhere [+] ensures that all shopping-related actions are accessible from a common location [-] but users may mistake the wheelbarrow link as a link to a product, not an order form [-] but may not be distinct enough to capture the user's attention 	<ul style="list-style-type: none"> ■ George Starts a Rose Garden ■ Susan does some spring shopping ■ Maddy Banks orders from garden.com for the first time
Organizing web site contents into a small number of main categories...	<ul style="list-style-type: none"> [+] quick and easy to scan [+] reduces overall site complexity by breaking information into manageable "chunks" 	<ul style="list-style-type: none"> ■ Maddy Banks orders from garden.com for the first time

Document

Search



Integrating research & education

- Let the educational needs drive research integration, not vice versa
 - It is a design problem itself, not a given
- Choose the right size/scope for integration
 - Even a single well-conceived example based on your research can be eye-opening
- Know that it won't work right the first time



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Broader impact focused helped us...

- Was the primary impetus for creating persistent shareable resources
 - This is more work but also more pay-off than just “study implications of case-based learning”
 - Also caused a focus on creating, refining, sharing materials for doing the outcome assessment
- Feedback from a larger audience
 - Other educators, not just our students
- Sets up infrastructure for spin-off research ideas



Mary Beth Rosson
Penn State University



Join us @ UCS!

- Your usability colleagues can work with the materials we have developed
 - <http://ucs.ist.psu.edu>
- Or, work with us to document the interactive systems projects you design (as cases)
- More broadly: partner in developing or studying scaffolded examples in your area



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Penn State University



Ideas for enhancing broader impacts...

- *Persistent* research themes – over grants, over colleagues, over work settings
- Plan from beginning for *sustainability*
 - Ensure institutional buy-in
 - Design open solutions, for evolution over time
- Organize research to explore *person variables* as covariates whenever possible
 - E.g., different learners have different interests and skills to bring to a problem: know and meet these!



Mary Beth Rosson
Penn State University



Thank you!

- For more information contact me:
 - College of Information Sciences & Technology, Pennsylvania State University
 - mrosson@psu.edu
 - <http://mrosson.ist.psu.edu>



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Penn State University